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FRESH-MARKET TOMATO TRIALS IN 1975
STAKE AND CAGE

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William L. George, Jr.[1] and Gerald G. Meyers[1]

This report contains the results of the 1975 stake and cage trials carried out at the OSU Horticultural Farm in Columbus. The data are presented to assist growers in selecting the best cultivars for planting.

Stake trial: This trial consisted of 10 cultivars and lines in four replications and 30 entries in non-replicated, observation plots. Rows were spaced 48 inches apart with plants 18 inches in the row, 15 plants per single row plot, equivalent to 7260 plants per acre. Plants were pruned to two stems by allowing the first lateral below the first flower cluster to develop. All other laterals were removed to the fifth-sixth flower cluster.

Cage trial: This trial consisted of 20 cultivars and lines in observation (non-replicated) plots. Rows were spaced 60 inches apart with plants 30 inches in the row, 10 plants per single row plot, equivalent to 3485 plants per acre. Within 2 weeks after planting, wire cages 30 inches high and 15 inches in diameter were placed over the plants. No pruning or training practices were carried out.

Cultural practices: Seed was sown on April 9, 1975. Seedlings were transplanted into 2 1/4-inch cell packs on April 21 and field set on May 27. One thousand lb. per acre of 15-15-15 were plowed down in March based on soil test results. Starter solution of 3 lb. per 50 gal. of 10-52-8 was applied during field setting of transplants at the rate of 1/2 pint per plant. Dymid at 6 lb. per acre was applied after planting for weed control. Insect and disease control were carried out at recommended intervals.

Weather Data

Month	Average Temperature	Rainfall (inches)
May (from 5/27)	66.6°F	2.9
June	72.4°F	4.4
July	75.1°F	1.5
August	77.3°F	3.2
September (to 9/25)	62.7°F	7.8

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As the weather data indicate rainfall was reasonably adequate except for July. When needed irrigation was applied at the rate of 1 inch per week.

The seed for these trials was generously supplied by various seed companies. These companies are referred to by code letters in the data tables.

Code	Seed Sources
A-1	Agway, Inc., Buffalo, N.Y. 14240
A-2	Asgrow Seed Co., Orange, Conn. 06477
B-1	W. Atlee Burpee Co., Philadelphia, Pa. 19132
H-1	Joseph Harris Co., Rochester, N.Y. 14624
L-1	Letherman's Inc., Canton, Ohio 44702
N-1	Niagara, FMC Corp., Modesto, Ca. 95618
O-1	Ohio Agricultural Res. and Development Center Wooster, Ohio 44691
P-1	Peto Seed Co., Satiscoy, Calif. 93003
S-1	Stokes Seeds Inc., Buffalo, N.Y. 14240
T-1	Otis S. Twilley Seed Co., Salisbury, Md. 21801

Results and Discussion

The harvest period for the stake trial was from July 31 to September 25 and for the cage trial August 4 to September 25.

Results on early and season's yield, fruit size, and % culls for the 1975 trials are presented in Table 1 (Replicated Stake), Table 2 (Observation Stake), and Table 3 (Observation Cage). In general yields and particularly fruit size were very good this year for a number of the tomato cultivars and experimental lines. As noted in previous years the cage culture delays earliness.

In the observation stake trial the entries 1W through 10W are TMV resistant breeding lines developed in Department of Plant Pathology, OARDC and which appear to offer some promise.

TABLE 1.---Replicated Trial: Yield and Fruit Size of Tomato Cultivars and Experimental Lines Trained on Stakes.

Cultivar*	Seed Source	Early Harvest to Aug. 8					Season's Harvest to Sept. 25				
		Marketable Yield (Tons/A.)			Percent Culls by Wt.	Fruit Size (oz.)	Marketable Yield (Tons/A.)			Percent Culls by Wt.	Fruit Size (oz.)
		No. 1	No. 2 & 3	Total			No. 1	No. 2 & 3	Total		
OCHF	H-1	6.6	2.1	8.7	7.0	6.5	26.9	9.6	36.5	6.9	6.0
JET STAR	H-1	5.7	1.8	7.6	2.0	6.4	28.8	8.7	37.5	2.7	6.4
HYBRID 980	A-1	5.7	5.4	11.1	1.5	6.3	20.7	13.5	34.2	4.9	5.7
W2HF	H-1	5.7	2.4	8.0	5.0	5.6	24.2	10.6	34.8	4.2	5.6
SUPER RED	A-1	4.8	3.7	8.5	2.2	7.9	26.3	18.3	44.6	3.4	7.3
88HF	H-1	4.8	1.9	6.7	6.0	5.9	24.4	10.1	34.5	4.9	6.4
SUPERSONIC	H-1	4.5	2.6	7.1	4.8	6.7	26.6	12.3	38.9	4.9	7.0
SUPERSONIC B	H-1	3.8	2.2	6.0	4.2	6.0	29.5	10.7	40.3	4.2	6.8
PINKWRAP	H-1	3.3	2.3	5.5	2.6	5.6	21.1	9.7	30.8	3.1	5.1
BETTER BOY	L-1	2.3	1.7	4.0	2.4	6.6	20.6	14.8	35.4	4.2	6.8
lsd at 5%		1.38	1.21	1.92	-	0.62	n.s.	3.58	n.s.	-	0.69

*Cultivars ranked in decreasing order of early yield of U.S. No. 1 grade fruits. Data based on mean of four replications. Summer, 1975.

TABLE 2.--Non-replicated Observation Plots: Yield and Fruit Size of Tomato Cultivars and Experimental Lines Trained on Stakes.

Cultivar or Experimental Line*	Seed Source	Early Harvest to Aug. 8					Season's Harvest to Sept. 25				
		Marketable Yield (Tons/A.)			Percent Culls by Wt.	Fruit Size (oz.)	Marketable Yield (Tons/A.)			Percent Culls by Wt.	Fruit Size (oz.)
		No. 1	No. 2 & 3	Total			No. 1	No. 2 & 3	Total		
SETMORE	H-1	9.0	3.9	12.9	1.8	6.7	24.2	9.9	34.1	2.6	6.1
OFHF	H-1	7.3	2.2	9.5	1.5	5.6	25.0	9.4	34.4	4.2	5.4
SPRING SET	H-1	6.9	3.9	10.8	1.5	4.5	16.8	10.2	27.0	7.7	4.2
3W	O-1	6.5	3.2	9.7	1.5	5.3	17.4	11.3	28.7	6.9	4.6
4W	O-1	6.1	2.3	8.4	4.4	5.1	24.3	12.3	36.6	5.3	4.5
OCNF	H-1	5.9	5.5	11.4	2.3	7.2	20.7	16.1	36.8	5.6	6.5
33HF	H-1	5.9	3.8	9.7	2.2	5.0	18.0	11.3	29.3	5.5	5.1
5W	O-1	5.8	3.3	9.1	1.1	5.2	25.7	14.4	40.1	3.2	4.4
6W	O-1	5.5	2.3	7.8	5.0	5.1	18.0	15.5	33.5	5.9	4.4
RED PAK	H-1	5.5	4.6	10.1	0.7	6.5	11.9	6.4	18.3	8.2	6.0
BIG EARLY	B-1	5.2	5.5	10.7	2.2	6.1	15.7	19.7	35.4	4.8	5.5
VF270	A-2	5.2	3.2	8.4	2.8	3.8	10.8	5.8	16.6	5.4	3.7
VF GARDENER	A-1	5.0	5.6	10.6	2.9	4.9	24.2	21.9	46.1	4.1	4.7
EASTERN STATES	A-1	4.8	2.8	7.6	4.0	4.8	20.4	15.9	36.3	8.4	4.5
WALTER	A-2	3.9	3.7	7.6	7.4	5.2	19.7	14.6	34.3	4.8	5.4
9W	O-1	3.9	3.0	6.9	3.1	4.7	15.5	11.6	27.1	6.6	4.0
NCX 3017	N-1	3.9	3.6	7.5	5.8	5.7	12.1	6.3	18.4	8.7	4.9
ACE 55VF	A-2	3.5	2.2	5.7	6.7	7.0	21.7	14.3	36.0	3.6	8.0
7W	O-1	2.9	1.9	4.8	4.8	5.6	21.2	11.0	26.8	8.6	5.0
2W	O-1	2.6	3.6	6.2	12.7	6.1	13.7	13.4	27.1	15.1	5.1
SEPTEMBER DAWN	H-1	1.9	0.8	2.7	4.2	5.6	23.4	6.1	29.5	8.8	6.2
10W	O-1	1.9	2.2	4.1	18.5	5.4	17.3	10.9	28.2	11.4	4.5
BURPEE VF	B-1	1.8	1.8	3.6	1.3	5.0	20.4	8.2	28.6	5.4	5.4
1W	O-1	1.8	2.8	4.6	23.0	4.7	9.2	11.6	20.8	20.1	4.1
8W	O-1	1.7	1.7	3.4	18.5	5.1	20.3	8.8	29.1	8.0	5.2
HEINZ 1350	S-1	1.6	1.7	3.3	4.8	3.5	12.4	7.6	20.0	5.5	3.6
NCX 3024	N-1	1.3	1.0	2.3	8.7	6.0	11.5	7.6	19.1	6.0	5.5
XP 271	A-2	1.0	3.5	4.5	3.1	6.5	8.3	10.1	18.4	5.0	5.6
MARKET KING	T-1	0.7	2.0	2.7	0.0	5.9	21.5	16.6	38.1	2.7	6.7
RAMAPO	H-1	0.4	2.4	2.8	9.6	7.2	23.2	9.6	32.8	6.0	6.1

*Ranked in decreasing order of early yield of U.S. No. 1 grade fruits. Summer, 1975.

TABLE 3.--Non-replicated Observation Plots: Yield and Fruit Size of Tomato Cultivars and Experimental Lines Grown in Cages.

Cultivar or Experimental Line*	Seed Source	Early Harvest to Aug. 8					Season's Harvest to Sept. 25				
		Marketable Yield (Tons/A.)			Percent Culls by Wt.	Fruit Size (oz.)	Marketable Yield (Tons/A.)			Percent Culls by Wt.	Fruit Size (oz.)
		No. 1	No. 2 & 3	Total			No. 1	No. 2 & 3	Total		
FANTASTIC	P-1	3.8	2.5	6.3	0.0	6.0	18.7	12.5	31.2	2.4	5.4
OFHF	H-1	3.6	0.7	4.3	1.5	4.4	23.2	8.0	31.2	2.1	4.3
RED PAK	H-1	3.3	0.2	3.5	0.0	5.9	20.4	4.9	25.3	0.9	5.0
HYBRID 980	A-1	3.2	0.8	4.0	3.4	5.9	30.6	9.8	40.4	3.9	5.3
PSX 17673	P-1	2.5	1.0	3.5	3.8	7.0	25.2	9.6	34.8	2.9	5.4
SETMORE	H-1	2.4	0.8	3.2	0.0	5.0	21.6	10.4	32.0	3.2	4.6
BIG SET	P-1	2.2	1.3	3.5	1.0	5.8	16.5	9.6	26.1	1.8	5.8
JET STAR	H-1	2.2	0.3	2.5	3.2	5.5	18.3	7.0	25.3	3.4	5.2
CAMPBELL 1327	H-1	2.0	0.5	2.5	3.9	5.2	24.2	5.9	30.1	2.7	4.8
33HF	H-1	1.9	1.1	3.0	0.6	4.3	22.1	8.7	30.8	2.5	4.3
OCNF	H-1	1.9	0.8	2.7	5.5	5.3	19.7	10.8	30.5	6.6	4.8
SUPERSONIC	H-1	1.8	0.4	2.2	15.9	5.5	25.8	10.4	36.2	5.6	5.0
PSX 29074	P-1	1.8	0.5	2.3	0.8	5.1	27.2	6.7	33.9	2.6	4.6
CAMPBELL 28	P-1	1.8	0.4	2.2	3.1	4.4	24.1	8.3	32.4	2.8	4.3
PSX 17573	P-1	1.7	0.3	2.0	10.7	7.5	24.0	11.6	35.6	5.2	5.4
SPRING GIANT	B-1	1.6	1.6	3.2	9.3	5.0	19.7	11.4	31.1	4.3	4.2
BETTER BOY	L-1	1.4	1.4	2.8	8.6	5.8	21.9	15.4	37.3	3.5	6.2
SUPERSONIC B	H-1	0.8	0.2	1.0	0.0	5.4	24.4	6.1	30.5	2.2	5.4
BURPEE VF	B-1	0.7	0.5	1.2	4.4	4.7	24.7	9.8	34.5	5.9	5.1
TROPIC	A-2	0.1	0.4	0.5	10.0	5.4	29.2	10.9	40.1	3.5	5.5

*Ranked in decreasing order of early yield of U.S. No. 1 grade fruits. Summer, 1975.

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